2018 Current Fiscal Year Report: Fusion Energy Sciences Advisory Committee

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1. Department or Agency	2. Fiscal Year
Department of Energy	2018

3. Committee or Subcommittee	3b. GSA Committee No.
Fusion Energy Sciences Advisory Committee	444

4. Is this New During Fiscal Year?	5. Current Charter	6. Expected Renewal Date	7. Expected Term Date
No	08/04/2017	08/04/2019	

8a. Was Terminated During FiscalYear?	8b. Specific Termination Authority	8c. Actual Term Date
No	AGEN	

9. Agency Recommendation for Next FiscalYear	10a. Legislation Req to Terminate?	10b. Legislation Pending?
Continue	No	Not Applicable

11. Establishment Authority Agency Authority

12. Specific Establishment Authority	13. Effective Date	14. Commitee Type	14c. Presidential?
AGEN	02/28/1991	Continuing	No

15. Description of Committee Scientific Technical Program Advisory Board

16a. Total Number of Reports 1

16b. Report Date	Report Title
02/15/2018	Transformative Enabling Capabilities for Efficient Advance Toward Fusion Energy

Number of Committee Reports Listed: 1

17a. Open 1 **17b. Closed** 0 **17c. Partially Closed** 0 **Other Activities** 0 **17d. Total** 1

Meetings and Dates

Purpose	Start	End
To provide advice on a continuing basis to the Director, Office of Science of the Department of Energy, on the many complex scientific and technical issues that arise in the development and implementation of the fusion energy sciences program.	02/01/2018	02/02/2018

Number of Committee Meetings Listed: 1

	Current FY	Next FY
18a(1). Personnel Pmts to Non-Federal Members	$0.00	$0.00
18a(2). Personnel Pmts to Federal Members	$0.00	$0.00
18a(3). Personnel Pmts to Federal Staff	$54,894.00	$89,468.00
18a(4). Personnel Pmts to Non-Member Consultants	$0.00	$0.00
18b(1). Travel and Per Diem to Non-Federal Members	$18,882.00	$47,815.00

18b(2). Travel and Per Diem to Federal Members	$0.00	$0.00
18b(3). Travel and Per Diem to Federal Staff	$0.00	$0.00
18b(4). Travel and Per Diem to Non-member Consultants	$0.00	$0.00
18c. Other(rents,user charges, graphics, printing, mail, etc.)	$23,641.00	$70,923.00
18d. Total	$97,417.00	$208,206.00
19. Federal Staff Support Years (FTE)	0.33	0.58

20a. How does the Committee accomplish its purpose?

The Committee receives charges from the Director, Office of Science. It normally appoints a panel consisting of members of the full Committee and experts in the specific areas needed to address the charge. The panel meets as necessary to develop a proposed response to the charge. The full Committee meets in public session to discuss the work of the panel and to prepare its response to the charge. In most cases, the Committee's response to a charge represents a unanimous position adopted by the Committee and is provided to the Department in a letter signed by the Committee Chair. In very rare cases, the response is based on a majority vote of Committee members present at the meeting.

20b. How does the Committee balance its membership?

The Committee members are chosen to ensure that the membership is appropriately balanced taking into account factors such as: (1) the scientific and technical disciplines; (2) the types of institutions that employ the members; and (3) the geographic location of these institutions. Recent Departmental guidance has dictated that the members be employed as Special Government Employees during the times that they are involved in conducting FESAC business since they are functioning as technical experts.

20c. How frequent and relevant are the Committee Meetings?

The Committee meets as often as is necessary to prepare adequate responses to the charges given to the Committee by the Department. In FY 2018, the Committee held one in-person meeting. The agenda for in-person meetings includes addressing the outstanding charge(s), a briefing from the Associate Director for Fusion Energy Sciences on programmatic issues of interest to the Committee members, a presentation on a scientific or technological issue related to ongoing fusion research, and an annual briefing by either the Director of the Office of Science or the Under Secretary for Science on the President's Budget that was submitted to the Congress, and on high-level issues affecting the Fusion Energy Sciences program.

20d. Why can't the advice or information this committee provides be obtained elsewhere?

The breadth of technical issues, the variety of research institutions involved, and the

long-term nature of the program preclude exclusive reliance on Federal personnel, consultants, or a single contractor for the necessary level of advice for planning purposes. The advice that will be provided by FESAC is so diverse and technically complex that it cannot be provided or gained through the use of consultants, hearings, grants, contracts, or existing committee.

20e. Why is it necessary to close and/or partially closed committee meetings?

N/A

21. Remarks

Designated Federal Officer

Samuel J Barish DFO

Committee Members	Start	End	Occupation	Member Designation
Carter, Troy	06/02/2014	06/02/2019	University of California, Los Angeles	Special Government Employee (SGE) Member
Cary, John	11/05/2017	11/04/2018	University of Colorado	Ex Officio Member
Cauble, Robert	06/02/2015	06/02/2020	Lawrence Livermore National Laboratory	Special Government Employee (SGE) Member
Demers, Diane	10/12/2017	06/02/2020	Xantho Technologies, LLC	Special Government Employee (SGE) Member
Greenfield, Charles	06/03/2013	06/02/2019	General Atomics	Special Government Employee (SGE) Member
Groebner, Richard	06/03/2013	06/02/2019	General Atomics	Special Government Employee (SGE) Member
Knowlton, Stephen	06/03/2015	06/02/2020	Auburn University	Special Government Employee (SGE) Member
Lumsdaine, Arnold	01/01/2016	12/31/2019	Oak Ridge National Laboratory	Ex Officio Member
Lynch, Kristina	06/03/2015	06/02/2018	Dartmouth College	Special Government Employee (SGE) Member
Maingi, Rajesh	06/03/2016	06/02/2019	Princeton Plasma Physics Laboratory	Special Government Employee (SGE) Member
Neilson, George	06/03/2013	06/02/2019	Princeton Plasma Physics Laboratory	Special Government Employee (SGE) Member
Patello, Gertrude	06/02/2014	06/02/2019	Pacific Northwest National Laboratory	Special Government Employee (SGE) Member
Pedersen, Thomas	06/03/2016	06/02/2019	University of Greifswald	Representative Member
Rapp, Juergen	06/03/2013	06/02/2019	Oak Ridge National Laboratory	Special Government Employee (SGE) Member
Rej, Don	06/02/2014	06/02/2020	Los Alamos National Laboratory	Special Government Employee (SGE) Member
Reyes, Susana	06/03/2016	06/02/2019	SLAC National Accelerator Laboratory	Special Government Employee (SGE) Member
Scime, Earl	10/27/2016	10/26/2017	West Virginia University	Ex Officio Member
Terry, Paul	10/12/2017	06/02/2020	Univ of Wisconsin-Madison	Special Government Employee (SGE) Member
Verboncoeur, John	04/26/2015	12/31/2019	Michigan State University	Ex Officio Member
Walker, Mitchell	10/12/2017	06/02/2020	Georgia Institute of Technology	Special Government Employee (SGE) Member

Wendt, Amy	06/03/2016	06/02/2019	University of Wisconsin	Special Government Employee (SGE) Member
White, Anne	10/12/2017	06/02/2020	Massachusetts Institute of Technology	Special Government Employee (SGE) Member
Wirth, Brian	06/03/2015	06/02/2020	University of Tennessee	Special Government Employee (SGE) Member

Number of Committee Members Listed: 23

Narrative Description

The Committee provides valuable, independent advice to the Director of the Office of Science on complex scientific and technological issues that arise in the planning, implementation and management of the fusion energy science program.

What are the most significant program outcomes associated with this committee?

	Checked if Applies
Improvements to health or safety	☐
Trust in government	☐
Major policy changes	☐
Advance in scientific research	✓
Effective grant making	☐
Improved service delivery	☐
Increased customer satisfaction	☐
Implementation of laws or regulatory requirements	☐
Other	☐

Outcome Comments

N/A

What are the cost savings associated with this committee?

	Checked if Applies
None	✓
Unable to Determine	☐
Under $100,000	☐
$100,000 - $500,000	☐
$500,001 - $1,000,000	☐
$1,000,001 - $5,000,000	☐
$5,000,001 - $10,000,000	☐
Over $10,000,000	☐
Cost Savings Other	☐

Cost Savings Comments
N/A

What is the approximate Number of recommendations produced by this committee for the life of the committee?
439

Number of Recommendations Comments
We do not have readily at hand the total number of recommendations this office has received from FESAC and its predecessors since it was chartered as the Fusion Energy Advisory Committee in 1991. An estimate is an average of 8-12 per year, making the total about 128-192 through FY 2008. In FY 2009, there were 14 recommendations made in the report on alternate toroidal magnetic fusion concepts and 15 recommendations in the report on HEDLP science. There were 120 recommendations made in the committee of visitors report in FY 2010, and no recommendations were made in FY 2011. In FY 2012, FESAC issued two reports, one on materials research opportunities over the next 10 to 20 years and the other on opportunities for and modes of international collaboration over the next 10 to 20 years. These reports together contained 27 recommendations. In FY 2013, FESAC issued two reports, one on magnetic fusion sciences program priorities, and the other on the prioritization of scientific user facilities during 2014 to 2024, containing a total of 10 recommendations. In FY 2014, FESAC issued a report on assessment of workforce development needs for the fusion energy sciences, which contained five recommendations. In FY 2015, FESAC issued the following three reports on: (1) strategic planning (18 recommendations), (2) a committee of visitors (44 recommendations), and (3) non-fusion applications (no recommendations). FESAC did not issue any reports in either FY 2016 or FY 2017. In FY 2018, FESAC issued a report on transformative enabling capabilities (no recommendations). Thus, an overall total of approximately 375 to 439 recommendations have been made.

What is the approximate Percentage of these recommendations that have been or will be Fully implemented by the agency?
0%

% of Recommendations Fully Implemented Comments
The Fusion Energy Sciences program seriously considers every recommendation made by its advisory committee, and we have tried to implement every one that was within our ability to do so. Only lack of funding, regulations, legal requirements or other such impediments have kept us from implementing every recommendation.

What is the approximate Percentage of these recommendations that have been or will be Partially implemented by the agency?
25%

% of Recommendations Partially Implemented Comments
The Fusion Energy Sciences program seriously considers every recommendation made by its advisory committee, and we have tried to implement every one that was within our ability to do so. Only lack of funding, regulations, legal requirements or other such impediments have kept us from implementing every recommendation.

Does the agency provide the committee with feedback regarding actions taken to implement recommendations or advice offered?
Yes ☑ No ☐ Not Applicable ☐

Agency Feedback Comments
Feedback is provided to the Committee in a letter from Fusion Energy Sciences (FES) to the Committee Chair within 30 days of the receipt of a letter from the Committee Chair transmitting a report to the Director, Office of Science.

What other actions has the agency taken as a result of the committee's advice or recommendation?

	Checked if Applies
Reorganized Priorities	☑
Reallocated resources	☑
Issued new regulation	☐
Proposed legislation	☐
Approved grants or other payments	☐
Other	☑

Action Comments
The office adopted a new structure for the program to use in its long-range strategic planning efforts for the magnetic fusion energy sciences element based on the findings and recommendations of FESAC, adopted the Progress Assessment Rating Tool Long-Range performance measures, decided to move ahead with the Fusion Simulation Project, decided to terminate the National Compact Stellarator Experiment Project based partially on FESAC findings, made changes to the procedures that it uses to handle research proposals, made adjustments to the program’s research priorities, made changes to various reports that were being prepared for transmittal to Congress based on

FESAC reviews and comments, moved ahead with plans to implement simulation and theoretical development in the fusion materials development program based on FESAC reviews, made the case to rejoin the ITER project following a series of FESAC reviews, followed the FESAC recommendation that compact stellarators were ready to be advanced to the Proof-of-Principle development stage, adopted an integrated program plan prepared by FESAC for managing the Fusion Energy Sciences program, and adopted FESAC advice for restructuring the entire fusion program and making it a science-based program instead of an energy technology development program.

Is the Committee engaged in the review of applications for grants?
No

Grant Review Comments
N/A

How is access provided to the information for the Committee's documentation?

	Checked if Applies
Contact DFO	✓
Online Agency Web Site	✓
Online Committee Web Site	✓
Online GSA FACA Web Site	
Publications	✓
Other	

Access Comments
The charges to the Committee, the minutes of every meeting, Committee reports and the letter transmitting those reports to the Director, Office of Science, the materials presented at each meeting, and the DOE response letters are all available on the FESAC Web page that is accessed from the Fusion Energy Sciences Home Page on the Internet at http://science.energy.gov/fes/ .